

# lean-ISD<sup>SM</sup>

lean Instructional Systems Design  
via the PACT<sup>SM</sup> Processes for T&D  
Fall 1998

The CADDI Newsletter

Vol. 1, Issue 4

A CAD process builds the CAD product (a total T&D curriculum or product line) with individual parts (T&D Modules and T&D Events) that add up to a logical whole within the context of a given job or category of position.

## CAD Process Overview

by Guy W. Wallace

Curriculum Architecture Design (CAD) is the least traditional ISD process of the PACT Processes for T&D. This methodology provides a *lean*, performance-based, structured, gated, in-control process for the design of a Curriculum Architecture or learning architecture—the T&D *product line*.

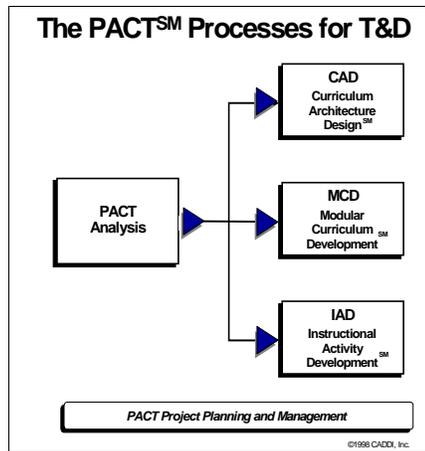
A CAD process builds the CAD product (a total T&D curriculum or product line) with individual parts (T&D Modules and T&D Events) that add up to a logical whole within the context of a given job or category of position.

A CAD ensures that all T&D works together to produce the desired results by providing employees with all the knowledge/skills needed to perform.

CAD is not what is sometimes referred to as curriculum design, which I read as *course* design, or even *small numbers of courses* design. CAD is typically done for complex jobs, job families, major departments/functions, or even whole divisions and whole companies (one manageable bite at a time).

A CAD can even focus on a major business process

### The PACT<sup>SM</sup> Processes for T&D



## The Return on Your PACT Process Investment

by Peter R. Hybert

If you are a training professional, a training consumer, or a business leader, there are good reasons for you to be interested in the PACT Processes. The PACT Processes enable the training organization to practice *lean-ISD* and, as a result, produce better training faster and at reduced costs. Better, faster, and cheaper. Sounds good, but how?

The first thing we have to discern is what the PACT Processes do. Ultimately, they produce training and development (T&D)

products more efficiently and effectively than traditional ISD processes.

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## NS 1251: Product Management Process Training won an ISPI Award of Excellence for Best Instructional Product in 1989.

Past PACT Projects . . .

# NS 1251: Product Management Process Training

by Guy W. Wallace

NS 1251: Product Management Process Training was an eight-day, keystone course in the overall Curriculum Architecture Design (CAD) of more than 120 potential training events. Eleven hundred product managers from five business units were in the target audience.

We built the course in the summer and fall of 1986. This project won an ISPI Award of Excellence for Best Instructional Product in 1989 for Gerry Kaufhold, our client, and me, for both its instructional design and its results achieved.

The ROI was greater than 400 percent for our client, and we had added high-end estimates for all of the costs we could think of to the "I," because the "R" figure was turning out to be so high!

It all began in 1986 at the taxicab stop at the San Francisco airport immediately following the ISPI (then NSPI) conference. We bumped into one of the key training managers of AT&T Network Systems who had a project on which he wanted us to bid.

The customer liked the engineering approach of our CAD methodology, and we ended up with the contract to first conduct a CAD project and then build many of the courses within that CAD.

NS's need to develop its product managers was a residual result of the 1984 modified final judgment (MFJ), Judge Greene's plan after the U.S. Justice Department's antitrust action to break up the monopoly of AT&T succeeded. AT&T would no longer own its primary customers.

The eight-day NS 1251: Product Management Process Training course was the *keystone course* in the entire curriculum architecture for the product managers responsible for decisions with hundred million dollar implications for a giant corporation. The stakes were high for the client. The needs of the diverse target audience were varied—hence, the highly modularized approach of the curriculum design.

NS 1251 taught and provided ample practice opportunities for both seasoned and rookie product managers regarding the basics of business case development, product life cycle management, financial forecasting and monitoring, cross-functional team leadership, and a varied set of interpersonal skills.

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# Performance Tests for Qualification/Certification Systems and Pay for Performance Systems

by Kelly A. Rennels

## Introduction

I'm not an engineer, or even a skilled technician; however, I have developed many Performance Tests for some very technical jobs.

A Performance Test is a tool/instrument used to measure an individual's capability for performing a specific task or piece of work. It is not a knowledge test or a test of an enabling skill. For example, you might test the actual performance for "sending or receiving an e-mail" in a Performance Test, but writing the steps for sending an e-mail, logging on to a computer, etc. is not a Performance Test.

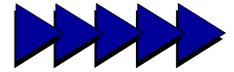
The key principles are that Performance Tests

- ◆ Test tasks directly relevant to job performance.
- ◆ Test end performance and assume if you can perform the task within the defined measures, then you must know the enabling knowledge and skills.

Some Performance Test applications are

- ◆ Qualification/certification systems
- ◆ Selection systems
- ◆ Pre/posttests for training
- ◆ Pay for performance systems

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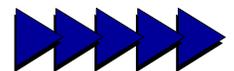
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### CADDI, Inc.

175 Jackson Avenue  
Suite 215  
Naperville, IL 60540

Phone: 630.355.9800  
Fax: 630.355.9818

### E-mail:

CADDI-INC@worldnet.att.net  
CADDI.com



The process can be used as a way to roughly gauge a project concept, or it can be used with more precision as a way to walk a Steering Team through a project scoping process.

versus what you want them to do), the audience in question, business rationale/results to be impacted, and any and all expectations (details like deliverables, due date, roles). Of course you can and should negotiate this agreement, but too often it isn't even clarified and written down!

The bottom line is that to really assess results, you need a defined project. Otherwise, you don't know where to start and where to stop tracking results.

🔑 The next key concept is the idea of a performance opportunity and how it can be quantified. If you start with a bias toward performance-based training, you can buy the assumption that the ultimate goal of the training is to change some work performance. That means that after training, people will be able to either do more work, do work more cheaply, or do better work. These improvements eventually find their way into more sales, reductions in scrap/waste, savings in time, etc., all of which can be assigned a value to the business.

What about "enabling K/S"? Things like teamwork skills are important, but how do you quantify the value? It is common sense—you don't. That is, you don't try to establish a hard value. Instead, you have to accept soft values or include the teamwork skills within an overall set of interventions targeted at an overall result. The determining factor is the person who is funding the project. You need a rationale that they will accept. If you are only working on an enabler, you will have to deal with more subjective measures.

🔑 Risk is a critical element of every project—nothing ever goes exactly according to plan. And, most of us know where the plan is weak if we make the attempt to look. However, it is critical that you and your customer have a dialogue about risk so that nobody has false expectations about the project.

There is no magic to assessing risk once it has been identified. Throughout this entire process, you have been making assumptions. These assumptions included things like the size of the target audience, the length of time it will take to implement the

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## CISPI Crackerbarrel *PACT Processes on the Road* by Peter R. Hybert

On September 17, I hosted a table at CISPI's (Chicago's chapter of ISPI) annual Crackerbarrel event. For those of you that do not already know, a Crackerbarrel is about the best presentation gig you can get—you only have to fill 20 minutes or so (and since you want lots of group input, only about 5 or 10 minutes is you talking). Also, CISPI offers wine, cheese, and other refreshments in between the sessions (and during, if you can pull it off). The way it works is that people choose one of approximately 12 tables and sit down for a semistructured discussion. At the conclusion of the 25-minute session, there is a 10-minute break and everyone goes to another table. This repeats three times. So another benefit is that you get a couple of practice runs as well.

At my table, we discussed how to determine the value of a performance opportunity. Using a simple model I developed and presented with Dottie Soelke during last year's ISPI conference, a sample training request is processed to derive an initial cost/benefit assessment from the standpoint of intended impact on business performance. The process can be used as a way to roughly gauge a project concept, or it can be used with more precision as a way to walk a Steering Team through a project scoping process, and it can be applied rigorously to set actual goals/targets for a project.

The idea is straightforward and so is the process. There are a couple of key insights needed to make it work.

🔑 When you are defining the project, you have to do it *with* the customer. The idea is to work together so that you have agreement on the performance in question (i.e., what people are doing

- 1 Define the project
- 2 Estimate/quantify the return or value of the project
- 3 Conceptualize a solution
- 4 Estimate the cost of the solution
- 5 Assess the risk
- 6 Calculate the return on investment
- 7 Decide "go/no-go" or to re-evaluate the assumptions

The PACT Processes include

**CAD**  
Curriculum Architecture Design – Systems Engineering of T&D Product Line

**MCD**  
Modular Curriculum Development – New Product Development of the T&D Products

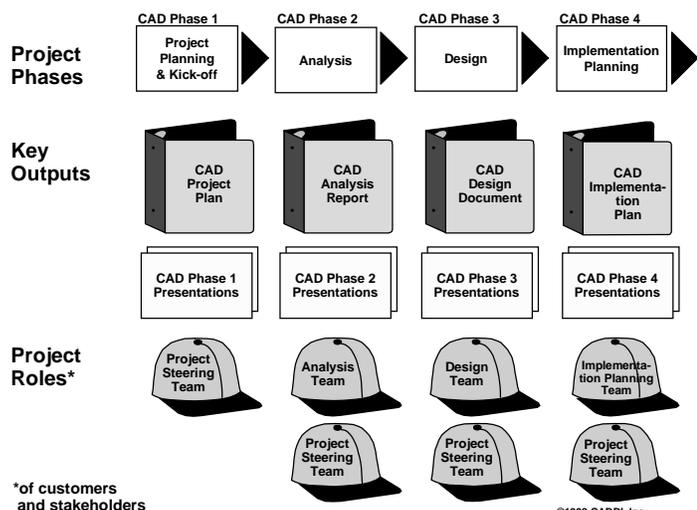
**IAD**  
Instructional Activity Development – Development of Instructional Activities

# CAD Process Overview

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Involving a cross-functional mix of personnel, but my preference is to focus CAD projects on job titles and job families or functions, such as sales representative, or the Outside Sales Department, or the entire Sales Organization.

CAD is both a product and a process. The four phases of the PACT CAD process produce specific outputs and involve specific teams as presented in the diagram below.



A CAD produces a T&D Path or paths for the intended target audiences. On each path is a suggested sequence or path of T&D Events, the T&D products.

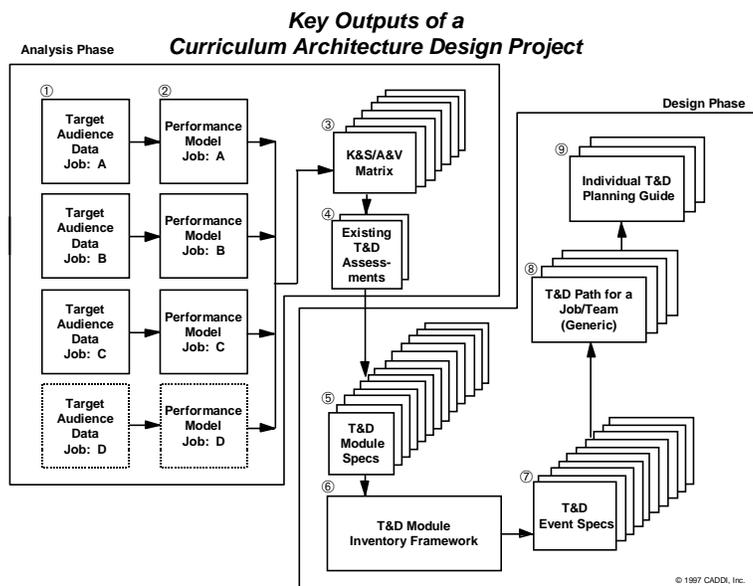
Complementing the T&D Path are T&D Planning Guides. These help the target audience and their management systematically plan training and development by *downselecting* the right T&D for the right time in the learners' learning cycle, given their job assignment specifics, their incoming knowledge and skills, and the budget with which the manager has to work.

Often this is tied to the performance appraisal/performance management system.

The T&D Event Specs articulate the final T&D products. The T&D Module Specs articulate the T&D subassemblies. A T&D Module Inventory Framework tracks and stores the many T&D Modules typical of a CAD for future reference, to increase reuse in future CAD and MCD project efforts.

## CAD Outputs Produced and Their Utilities

The key analysis and design outputs of CAD are presented in the diagram below.



## CAD Teams, Roles, and Responsibilities

The use of key company personnel on the designated project teams will ensure higher quality of both the project inputs and outputs. In addition, it will provide for a level of participation in the project activities that will create increased ownership of the results by the customers/stakeholders and will then lead to more support for eventual implementation activities in the follow-on MCD and IAD efforts.

This team approach is used to ensure VOC, *voice of the customer*, as well as VOS, *voice of the supplier*.

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### lean-ISD<sup>SM</sup>

The PACT Processes are *lean* because they shorten cycle times, reduce incurred expenses, and improve the quality of the outputs. The PACT Processes are *lean* due to their use of teams, templates, tools, and a defined ISD process. PACT provides a common process—a common approach for the conduct of ISD by T&D professionals.

The team approach is used to ensure VOC, *voice of the customer*, as well as VOS, *voice of the supplier*.

Complementing the T&D Path are T&D Planning Guides, which help management systematically plan training and development by downselecting the right T&D given their job assignment, incoming knowledge and skills, and the budget.

(Continued from page 4)

It sometimes concerns ISD professionals that instructional integrity will fall by the wayside if the customer has too much say in ISD efforts. After all, they always want ten pounds of training shoved into a five-pound bag and the T&D suffers, as do the learners who get high-level overviews instead of hands-on, skills-building T&D, due to the time or methods constraints imposed by unreasonable customers!

Our PACT Process approach is to facilitate quickly, in a somewhat Socratic fashion, the customers/stakeholders through a series of logical data gathering, analysis, design, and decision-making steps so that they will make better business decisions throughout the process and, more importantly, make those decisions at the right time. They live with the consequences of bad T&D more than the T&D organization does. Sure, we in ISD get beat up if the T&D is bad, but their organizational performance suffers.

The key teams and roles involved in the PACT Process for CAD include the following:

- ◆ PST – Project Steering Team
- ◆ PM – Project Manager (supply side/customer side)
- ◆ AT – Analysis Team
- ◆ DT – Design Team
- ◆ IPT – Implementation Planning Team
- ◆ ISDT – ISD Team

The Project Steering Team (PST) is critical in that the PST members handpick both the Analysis Team and Design Team members for their mastery of performance and their credibility with both the PST and the target audience they will represent.

A CAD generates hundreds of data points and is tough for any individual to grasp in a short time frame. The PST will be asked to sanction the plan, the data, and the design at several points, but it may be difficult for them to do so quickly. PST members are typically upper- and midlevel managers

who are too busy to backtrack through all of the data to ensure it's the right stuff. Their selection of master performers and other subject matter experts builds quality in from the get-go! This approach of creating trust between the PST and the key teams of customer/stakeholder staff involved in the CAD effort helps to build quality in in the first place, rather than attempting to inspect it in later. It also facilitates management's need for command and control, while still empowering and supporting business investments, such as T&D.

The actual work of designing a Curriculum Architecture is best conducted by an instructional designer, a member of the ISD or T&D organization. They are guided and influenced through the design process by a CAD Design Team, all of whom should have been involved in the CAD analysis process as Analysis Team members.

**CAD Project Cycle Times**

CAD projects may typically span a two- to four-month cycle. But as always, it depends!

The table below is an attempt to provide you with a reasonable estimate. But in truth, you need to determine the exact tasks for each CAD phase and come up with a cycle time and cost estimate for the specific project.

A *small* CAD project is one where the target audience is a singular job title, typically located in one location or where the performance is pretty standard from one location to the next, and where the customer and key stakeholders are easy to contact and schedule.

A *medium* CAD project is one where multiple jobs may be targeted and where the PST members and Analysis Team/Design Team members might be in multiple locations.

A *large* CAD project is one where the target audiences are more varied, the performance varies greatly between the multiple locations, etc. And, of course, there are even larger CAD projects. Some of the ones I conducted were

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CAD Phase	Phase 1 Cycle Time	Phase 2 Cycle Time	Phase 3 Cycle Time	Phase 4 Cycle Time
Small CAD Project	1 week	2 weeks	2 weeks	1–2 weeks
Medium CAD Project	2 weeks	2–3 weeks	2–3 weeks	2 weeks
Large CAD Project	3 weeks	3–4 weeks	3–4 weeks	2–3 weeks

CAD projects may typically span a two- to four-month cycle. But as always, it depends!

# CAD Process Overview

(Continued from page 5)

- ◆ The entire staff of the R&D organization for a large, Fortune 50 materials corporation. This took about four months and involved three analysts and one CAD designer.
- ◆ The entire corporation for a wholesaler concurrently undergoing a major business process re-engineering effort. One hundred four jobs in 19 job families were targeted. Four analysts/designers were involved. This project took just over six months to complete and was slower than need be by the re-engineering teams' difficulty in keeping ahead of the CAD project.
- ◆ Nine different bank jobs from the teller position to the district manager position where the major regions came from a series of acquisitions and everybody was doing the jobs differently due to state regulatory drivers, as well as former company policy differences. Two analysts were used to conduct three analysis meetings, and one designer was involved. This project took about four months.

## CAD Links to Other PACT Processes

A CAD project always leads to multiple MCD projects (see graphic below). MCD projects are actually prioritized in Phase 4 of the CAD project to build T&D to meet key business priorities of the company so that you only develop the T&D that *should be* out of all of the T&D that *could be*.

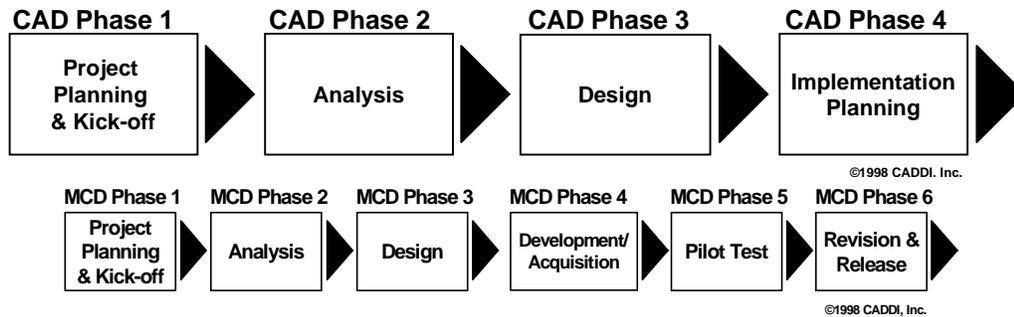
Many potential T&D products are never built because the return on investment (ROI) and economic value added (EVA) forecasts or the strategic value to the enterprise simply do not warrant the efforts and expenditures given the returns.

## CAD Benefits

Quality, performance-based T&D exists exclusively to improve human performance, and that human performance exists within the context of business or organizational processes. Any other goal for T&D has almost zero ROI.

The CAD's architectural design will help reduce the

(Continued on page 7)



A CAD project always leads to multiple MCD projects. MCD projects are prioritized in Phase 4 of a CAD project to build T&D to meet key business priorities—the T&D that *should be* out of all the T&D that *could be*.

# CADDI Projects

## Bandag, Inc.

- ◆ Guy and Deb are continuing an MCD project involving the development of four T&D Events for Production/Operations Managers, including the application of the Theory of Constraints/Synchronous Flow to our client's dealers' operations.

## General Motors University

- ◆ We all continue with the PACT Process Technology Transfer (PPTT) project, conducting demo projects, delivering workshops for our budding PACT Practitioners, and building additional tools and templates to facilitate the internalization of PACT Process capability.

## Landis & Staefa

- ◆ Pete, Kelly, and Guy are all busy working on several CAD and IAD projects to simultaneously conduct multiple analyses and design efforts to produce both the T&D architecture and to build CADDI's Performance Tests, used here as qualification tests for field personnel.

## Rockwell Collins

- ◆ Pete and Kelly are working on multiple Performance Modeling and Knowledge/Skill analyses to assist the client in loading their SAP system for engineering personnel. ❖

Quality, performance-based T&D exists exclusively to improve human performance, and that human performance exists within the context of business or organizational processes.

## CAD Process Overview

(Continued from page 6)

life cycle costs of the entire training and development product line.

The T&D Modules can be configured many ways, but if they follow the “rules of modularity,” they will maximize the shareability of T&D content across various potential target audiences. They will create and/or reinforce common language across more target audiences, while also reducing the T&D suppliers’ costs by reusing content chunks over and over again (but only as appropriate!). Elsewhere in business, especially in design engineering, this is known as *configuration control* or *platform design*.

A CAD will also help prevent the allocation of resources to T&D that have little or no impact on

job performance. A CAD project engages the T&D customer in the prioritization of all gap T&D development efforts.

### CAD Summary

The CAD process helps make sure that the products of the Curriculum Architecture will meet the high-payoff needs of the key business stakeholders, including the customer side and the supply side. This is due to involvement of the customer side in collaboration with the supply side (ISD professionals).

The CAD’s macrolevel analysis and design outputs become guiding MCD inputs to the midlevel analysis and design efforts. And they are *further* leveraged in the IAD’s microlevel analysis and design activities, which may or may not exist within an MCD effort. An IAD can be accomplished without a prior MCD effort, just as an MCD effort may be done without a prior CAD. ❖

Stay tuned for news about Guy’s newest book: *lean-ISD*<sup>SM</sup>. CADDI hopes to have copies available for sale in December/January.

## NS 1251

(Continued from page 2)

The interpersonal skills included time management, active listening, and verbal communications behaviors appropriate to the job of wrangling with the representatives of many different organizations, each with different agendas and opinions on what to do and why, how and when to do it, and who exactly will do it.

All of this was accomplished during the eight days through a series of lectures and participation in five phases of an ever-expanding/increasingly difficult simulation exercise focused on managing a product through its life cycle stages.

The NS 1251 simulation exercise taught product management via a focus on fictional business units responsible for a product line different from, but similar to, the real products of Network Systems. The Training focus was on process not content. NS 1251 participants were paired to manage five different video products through the typical issues associated with that phase of the life cycle, and then watched four other product management teams do the same on other products in the product family.

The class held 20 participants. Ten participants were put into two major teams, Alpha and Omega, who would run through the exercise in parallel. The class could also be run for any number of groups of ten, each requiring one facilitator.

For each of the five phases of the life cycle, the simulation exercise covered the five product rounds. In each product round, the five teams of two people each would be responsible as the product management team leaders (they were role-playing their jobs as product managers). They were leading a cross-functional team through data review, business strategy development and (high-level) operations planning, implementation plan schedule development, budgeting, and financial forecasting.

You would have experienced it all in the eight days. You would have co-conducted five meetings as the product manager and honed your agenda development/meeting facilitation/conflict resolution/financial calculating/business case and business plan development skills with five rounds of hands-on practice.

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T&D Modules follow the “rules of modularity.” They will maximize the shareability of T&D content across various potential target audiences. Elsewhere in business, this is known as *configuration control*.

# The Return on Your PACT Process Investment

*(Continued from page 1)*

Below are three ways T&D produced via the PACT Processes is different from much of the T&D that is found in organizations.

1. The T&D will be “performance-based”
2. The T&D will be modular
3. The T&D will be available to learners more quickly than if produced through traditional ISD methods

What does performance-based T&D mean to the training supplier, consumer, or business manager?

Performance-based training goes beyond enabling knowledge and skills and actually teaches people how to perform their jobs. As a result, the new learning is more likely to transfer to the job. Training suppliers invest their energies (and budget) in projects that will make a difference.

T&D customers (trainees and their managers) select training from a path sequenced to fit their job requirements based on their “need to use.” The training experience won’t be a waste of time (as in “if I get just one good idea it was worth sitting there for three days”) but, instead, is seen as relevant and necessary to success.

## PACT Processes on the Road

*(Continued from page 3)*

intervention, and the anticipated performance improvements. For each, ask yourself how likely it is that the actual results will vary and how serious the consequences will be. Focus on those that are high likelihood first and, within that group, those that have highly serious consequences.

Once the issues are identified, it is okay (especially at the beginning of the project) to then simply assign a risk factor to the whole project. Just use a percentage, as in “There is an 80 percent chance that we will execute the plan and gain the expected results.” Multiply the planned return by the risk percentage to find a reasonable or believable return. Use this number to evaluate the overall opportunity.

Performance-based training goes beyond enabling knowledge and skills and actually teaches people how to perform their jobs.

And the business manager? This stakeholder plays a key role across the entire spectrum of T&D decisions. They identify which performance needs attention, handpick top performers to provide input to the project, and prioritize the training solutions that get developed based on current (and projected) business needs. They are paid to be responsible for business results. The PACT Processes allow them to make training decisions from a business perspective. If you are a stockholder, this is exactly the way you want these decisions made.

What does modular T&D mean to the training supplier, consumer, or business manager?

Modular T&D means potential reuse. Of course, you can sometimes reuse entire T&D products (i.e., events/courses). However, a modular architecture greatly increases the number of opportunities for shareability because, while an entire course may not fit another audience’s needs, there is a much greater likelihood that parts of it will.

As a training supplier, modular T&D means cost reductions because every module that is reused is a module that you didn’t pay full price to develop. Your people are focused on filling “gap” training, not re-creating something that already exists. Your resources can stretch further.

*(Continued on page 9)*

🔑 Decide on whether to proceed or not. Does the project make sense if you consider only the “hard opportunities?” Does the project still make sense if the return is cut by 20 percent? If not, you may need to look at the overall plan and decide where to make changes. Or, you decide “no-go.” If you do decide to rework the plan, the first place to look is your assumption list. These are the items that drove the risk. If you rework the assumptions and still can’t convince yourself it all makes sense, it may be time to say “no-go.”

Most of this is common sense, but real projects can seem much more complex. And they are. However, you can work through a rational process if you are focused, patient, and have a simple tool. You can pick up the tool from our Web site (CADDI.com). The focus and patience are up to you. ❖

Does the project still make sense if the return is cut by 20 percent? If not, you may need to look at the overall plan and decide where to make changes. Or, you decide “no-go.”

T&D can be a much more significant influence on human performance if the PACT Processes are part of how your T&D organization does business.

Business people don't have to be convinced of the value of reuse. This concept has been widely adopted in product design and software development, as well as other business practices. In fact, they are more likely to wonder why it isn't already being routinely practiced in the training world.

## *The Return on Your PACT Process Investment*

*(Continued from page 8)*

As a learner, modules are transparent to you during the training. However, you benefit because you are getting a common message. We should also hope that the T&D supplier has been able to take advantage of the opportunity that reuse provides by "continuously improving" the design to make it as effective as possible.

Business people don't have to be convinced of the value of reuse. This concept has been widely adopted in product design and software development, as well as other business practices. In fact, they are more likely to wonder why it isn't already being routinely practiced in the training world.

What does a reduced "time to market" mean to the training supplier, consumer, or business manager?

As a training supplier, you probably get a large number of requests for training. *lean-ISD* enables you to respond more quickly. PACT's standard/common processes help everyone understand "the routine" of a project and complete it quickly. Also,

## *Performance Tests*

*(Continued from page 2)*

My first project was to develop Performance Tests for pipeline operators and maintenance technicians working on the Alyeska Pipeline in Alaska in 1994. I worked with designated master performers to build more than 100 tests to assist the client in proving to their regulators that they had qualified people performing mission-critical tasks.

Currently I am working with Pete Hybert of CADDI to develop Performance Tests for systems engineers, design engineers, and system and service technicians for one of the leading providers of building control systems. The client is using these Performance Tests to help assess field technical and sales staff competence in an overall effort to accelerate performance capability of their mission-critical performances. This assessment will also allow them to better prioritize the development of the gap T&D of their Curriculum Architecture

the PACT Processes use group meetings for analysis and design to reduce the cycle time of these activities significantly (e.g., we once developed from scratch a four-day, group-paced, simulation-based training program for Labor Relations for new supervisors in a union environment in less than 90 days!).

As a learner or line manager, the benefits of faster training are obvious—you get the training you need sooner. The cost and aggravation of the learning curve are reduced for you, the business, and your customers.

As a shareholder, you would also be a supporter of cycle time reduction, because as in the manufacturing world, it yields all kinds of return. Reducing cycle time means reduced cost per unit because you use less subject matter expert time. And, you get more training for the same budget. Training is no different from other business functions—if you cut your cycle time in half, it effectively doubles your capacity!

## *The Bottom Line*

The PACT Processes focus T&D on business priorities. They enable training suppliers to develop and deliver training at reduced costs. And they lead to increased customer satisfaction. The real bottom line, though, is that a key differentiation for many companies is human performance—that is, what your people can do. T&D can be a much more significant influence on human performance if the PACT Processes are part of how your T&D organization does business. ❖

Design (CAD) projects. The CADs are being designed concurrently with the analysis and design of the Performance Tests.

In both cases, we used CADDI's PACT Process for Instructional Activity Development (IAD) to define performance requirements and document that on our Performance Model. Then we derived the enabling knowledge and skills and created design specifications for each of the Performance Tests.

Client project gate reviews were conducted to prioritize the Performance Tests to be developed. Then we worked with master performers (MP) and subject matter experts (SME) individually to develop each Performance Test. The Performance Tests were then pilot tested with the target audience, revised as necessary, and released to the field for continued use.

*(Continued on page 10)*

The business situation that drove this project was the company's need to recruit and "spin up" new people quickly without risking their customer satisfaction rating.

## Performance Tests

*(Continued from page 9)*

### Project Profiles

My first Performance Test project experience was with a company that transports raw oil drilled from the North Slope of Alaska over 800 miles of pipeline to a marine terminal, where it is loaded into cargo ships and shipped around the world.

The purpose of the project was to design and develop a technical qualification system to identify the skill requirements for performing the job, develop the tools to qualify employees on those skills, and design the administrative processes to support the system.

The need for the project was driven by the results of a government regulator audit that required the company to establish a formal system for identifying, measuring, and tracking the employees that were trained/skilled in particular areas. Only those performance areas that were mission critical, or were critical from a safety or environmental perspective, were focused on during the selection of performance tasks.

The target audience included pipeline operators and maintenance technicians with the population spread over several pump stations and a marine terminal along the 800 miles of pipeline running across Alaska from Prudhoe Bay to Valdez.

Although much of the project work was conducted at the company headquarters in Anchorage, all of the Performance Test development was completed in the field by gathering input from SMEs that were interviewed on site at the various pump stations and the marine terminal.

## NS 1251

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You would have had to represent the issues of related/partner organizations as you and they role-played our parts in the exercise. It would have felt eerily familiar to anyone with a lot of real-world experience—at least that's what they told us.

The last ten deliveries of NS 1251 included six in The Netherlands, which I delivered.

NS 1251 was a great learning experience for Pete and me. My greatest insights into business in gen-

Not only was the project itself quite interesting, but all the travel throughout Alaska allowed for some pretty interesting excursions, including hiking in Denali National Park, white water rafting, and, best of all, heli-skiing in the Chugach Mountains near Valdez!

My second Performance Test project is for a leading provider of integrated, distributed digital control systems used to manage heating, ventilation, air conditioning, fire and smoke, and access in commercial, industrial, healthcare, and educational facilities.

The purpose of the project is to produce an integrated development and qualification system for systems and service technicians, design engineers, project managers, project engineers and sales. The project used both CADDI's CAD and IAD processes to produce the training and development design and the Performance Tests that qualified the employee.

The business situation that drove this project was the company's need to recruit and "spin up" new people quickly without risking their customer satisfaction rating. The market for building controls systems is growing rapidly. But, to successfully take advantage of the opportunities, a great deal depends on the capability of field personnel to engineer, install, and service the system that has been customized to specific customer and facility requirements. The company was challenged with how to expand quickly to meet market demand.

The target audiences included in the effort are six different technician roles, design engineers, project managers, project engineers, and sales roles at 70 branches in the U.S. and Canada.

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eral and financial management specifically were learned in this project. This T&D project led to many more for NS, where even more was learned about business planning, marketing, manufacturing, sales, finance, service, public relations, contracting, operations, various quality tools and techniques, and many, many other learnings!

We were fortunate to work on such a great series of projects. Our main client, Gerry Kaufhold, is an independent contractor and can be reached at [geraldpkaufhold@worldnet.att.net](mailto:geraldpkaufhold@worldnet.att.net). ❖

Using CADDI's PACT Process for IAD, we defined performance requirements and documented that on our Performance Model. Then we derived the enabling knowledge and skills, and created design specifications for each of the Performance Tests.

After client project gate reviews were conducted, we developed each prioritized Performance Test with input from MPs and SMEs during individual interviews.

company procedures in place and multiple “good” ways it could be done

“My experiences in developing more than 100 technical Performance Tests have proven the need for process control to ensure the product quality and manage the cycle time and costs for analysis, design, development, and pilot test. I fully support and believe in the CADDI philosophy:

‘The supplier owns the process, and the customers own the content.’”

## Performance Tests

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### Key Challenges

A few challenges that were faced during these two projects have included

- ◆ A decentralized organization structure and culture that made it challenging to design a common standardized system where common language, processes, paperwork, etc., do not exist
- ◆ Establishing standard measures/metrics for performing a task when there were no company standards in place
- ◆ Determining the performance steps to be used for the Performance Test where there is no

- ◆ Keeping the training and qualification requirements *evergreen*, as results from the ongoing development and release of new products by the company
- ◆ Creating the supporting administration/tracking system and processes that were simple and effective, user friendly, with minimum investment

### Summary

My experiences in developing more than 100 technical Performance Tests have proven the need for process control to ensure the product quality and manage the cycle time and costs for analysis, design, development, and pilot test. I fully support and believe in the CADDI philosophy:

“The supplier owns the process, and the customers own the content!” ❖

## Crewmate Profile: Pete Hybert

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Pete has applied his focus on performance in several published articles and presentations. He sees an opportunity to design integrated human support systems for new products and services in which training is only one piece of a seamless system providing knowledge, skills, and information to the work processes. Other areas of interest are straightforward ways of determining the value of various interventions and “visible management”—using charts/scoreboards to show overall business system performance. A long-time ISPI member, Pete is currently serving as this year’s Awards of Excellence committee chair.

Pete lives in Wheaton with his wife, Faith, and their sons, Ian (13) and Colin (9). Balancing work and travel with household and family responsibilities is always a challenge. “After almost 20 years of marriage, we are pretty well adjusted by now. We try to get all the routine stuff done during the week so Saturdays can be used for special projects. Sundays we try to make one hundred percent family time. (It sounds more organized than it feels, though.)”

Pete doesn’t really have time for hobbies, but he would like to find a way to “do music somehow. Right now, the priority is to get CADDI rolling, keep up with client work, maybe get a book written, and still work in some fun.” Always the optimist. ❖

## CADDI Summerfest

Our first annual Summerfest was held on the waters of Lake Michigan and the Chicago River. “The Buccaneer” carried a lively (see photo!) group of crewmates, friends, and clients past Chicago’s skyline while we ate, drank, and talked.

Check out our Web site ([www.CADDI.com](http://www.CADDI.com)) for more photos of the event. ❖

*Pictured at right is Olivia King daughter of Mark King Landis & Staefa client.*



## CADDI Crewmate Profile:

# Peter R. Hybert

Pete Hybert, one of CADDI's two founding partners, has been working in corporate training and development since 1984, when he joined Landis & Staefa's (then MCC Powers) training organization in the northern suburbs of Chicago. Pete entered the industry just after graduating from Northern Illinois University with a master's degree in education (emphasis in Instructional Systems Design). He previously worked at a number of jobs that could be best described as miscellaneous, after receiving a bachelor of music degree in composition.

But, learning music composition was actually not bad training for consulting—it follows a similar process. “You start with an idea of what you want to do, but you have to evolve it to fit the constraints of your situation—for example, your audience's expectations, the capabilities of the instruments and instrumentalists, time frame available, etc. It's just like building a training program, or even developing a product, for that matter.”

In college, Pete learned the usual instructional design theories and principles, but he was also introduced to a discipline called “performance technology” in a course built around Tom Gilbert's landmark book *Human Competence*. What stuck with him? Gilbert's focus on accomplishments and results versus tasks and behaviors. After all, tasks and processes are only means to desired ends.

With Landis & Staefa, Pete started as an intern to develop a couple of self-paced modules from a curriculum architecture designed by an R.A. Svenson & Associates consultant, Guy Wallace. Before the internship ended, the project lead left the company for a new job and Pete inherited the whole project! Pete had a number of good experiences there, including learning and applying Performance Modeling and Knowledge/Skills analysis to new product training, engineering training, and service. He learned about systems there as well, attending Geary Rummeler's system mapping workshop and trying to understand complex building environmental control system logic. Pete also designed his first modular curriculum architecture for the service side of the business.



He also knew that the CADDI team, many of whom came from the former SWI, would be a high-performing work group—one that would “cook, crank, and wail.”

In 1989, Pete joined SWI-Svenson & Wallace to work as a consultant. He focused on training projects, including Curriculum Architecture Design, custom course design, and simulation development. One key learning opportunity was in how business works. This came through a series of product management training projects addressing team leadership, market assessment and business case development, and ongoing life cycle management all centered around what later became popular as EVA—Economic Value Added. Other highlights included a large curriculum architecture for an entire business undergoing re-engineering, being in on the refinement of the CAD process, and starting on the ground floor of the MCD and IAD methodologies that have become the PACT Processes.

One of many PACT-related highlights was developing training to support a combinatorial chemistry process technology transfer. “The content was way over our heads, but yet the PACT Processes worked. We were able to facilitate a group of very independent scientists to ‘reduce to training’ a very complex technical process. We knew then that the PACT Processes reduced ‘ISD art’ to something much more like practice.”

When SWI decided to break into two businesses, Guy approached Pete to partner with him to create CADDI. Pete believed the PACT Processes were sound, marketable, and worth the effort it would take to get a new business off the ground. He also knew that the CADDI team, many of whom came from the former SWI, would be a high-performing work group—one that would “cook, crank, and wail.” He was also excited to be part of a business that would fully apply the principles of PT (and ISD)—CADDI would define performance expectations, provide visible measures, offer rewards and recognition, train people, i.e., everything a work team needs to perform (although, not all in the first six months).

*(Continued on page 11)*

For more information about Pete Hybert, or any of the CADDI Crew, please check out the CADDI Web site at CADDI.com

And then please let us know what you think.

Thank You.

# PACT Processes for T&D Testimonials

## The PACT Processes for T&D

**P**erformance-based  
**A**ccelerated  
**C**ustomer-/Stakeholder-driven  
**T**raining & Development<sup>SM</sup>

lean-**ISD**

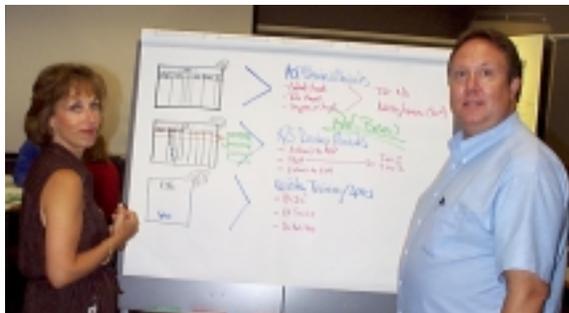
Visible & Predictable

“We have applied the CADDI process for several years in a variety of situations. The process has been valuable to our clients and has been a best practice and trademark for our training and development operation.”

—Gretcha Flinn and Marlene Frederick, Eli Lilly and Company

“I began taking the training simultaneous with joining my new company. In retrospect, I firmly believe this was the best way for me to learn the processes and begin to use them in my role as Sr. Project Manager. The processes provide a solid architectural structure within which to lead my customers as we develop performance-based curricula. I’ve completed all training in the PACT Processes and have lead a team through the first three phases of a major MC (CAD) Process. I anticipate moving into one or more MI (MCD) processes to begin actual course development for the same project. All PACT Processes are detailed, flexible, and truly “self-healing.” If a key detail is overlooked, it will be captured using these processes. The structure allows for and supports creativity in identifying, addressing, and meeting customer needs while maintaining instructional integrity. I hope to see this model referenced in our graduate ISD programs!”

—Elaine Cook, Raytheon Training Company



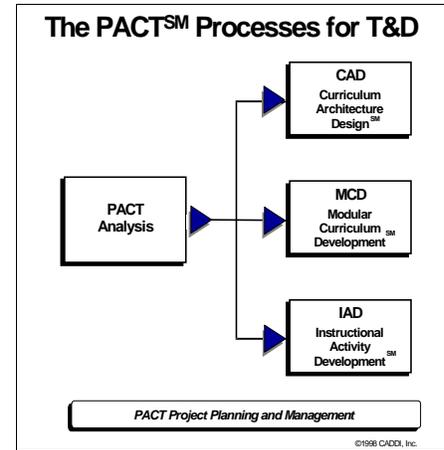
*Pictured above: Cathy Martin and Ric Byham conducting the morning’s review-preview for GMU’s version of our CAD Design Workshop.*

“The PACT Process is a very comprehensive training and development methodology. At times it’s easy to get lost in all the details, but I’ve been very pleased with the end results.”

—Jennefer Bowman, Raytheon Training Company

“What was significant for me as a developer was having the project’s decision-makers involved up-front. That helped set direction early and minimized revisions later in the project. As a result, I found myself without much to do during the revision phase.”

—Mark Bade, Bade & Associates



“The AT&T Call Center project reminded me of the city and state maps on the Internet. In the design and development we were working at a ‘street level’ with lots of and precise content. But the beauty of the PACT is that we could literally ‘zoom out’ to a picture view of the entire project. This let us make critical decisions about to design the learning and to ensure that they included the right content that linked to what people actually needed to do on the job.

The design and development phase of the AT&T Call Center project was anchored in an upfront analysis that involved achieving a consensus on the content by subject matter experts and master performers. As a result, we were able to complete the development and evaluation phases with almost no rework.

I was continually amazed at how subject matter experts were able to sort course content. Because they became adept at filtering the ‘nice to know’ from the ‘need to know,’ we were able to optimize the design and development phase and reduce the time new learners spend in training.”

—Steve Muller, SMA Consulting

“It’s a VERY rigorous process that gathers great data and (perhaps best of all) is defensible from a business perspective.”

—Barb Koch, Raytheon Training Company

*(Continued on back side)*

“The PACT Processes are ISD, project management, and ROI business decision-making all rolled into one rich, easy-to-use process.”



*Pictured above: Lisa Alexander facilitates a group through embedding a K/S item into a T&D Module while Cathy Martin looks on.*

*(Continued from front side)*

“CADDI’s PACT Processes embody the fundamental principles of instructional technology. More importantly, the processes have a built-in project management scheme that makes it easy to use and easy to track and communicate progress. Finally, the processes also enable the customer to make key business decisions along the way, never assuming that training is the only answer. In short, the PACT Processes are ISD, project management, and ROI business decision-making all rolled into one rich, easy-to-use process.”

—John Stolter, Performance Innovations, Inc.



*Pictured above: Meg Travers (standing) leads Conrad Homer, Lisa Toth, and Barb Koch to determine, “Where does this K/S item go in the Path sequence?”*

“One of the most exciting and beneficial aspects of the PACT Process is the partnership that develops between the line Steering Teams and the training and development department. The scheduled process gate reviews drive the ongoing communications, instill line ownership of the results, and assure that training and development continues to focus on the right business objectives.”

—Randy Kohout, Bank America



*Pictured above: Brian Blecke lays out the T&D Path of Events with Tracy Sorrentino, Cathy Martin, Lisa Alexander, and another budding PACT Practitioner.*

“We have decided there is no possible way we could have been successful without the upfront planning we did with CADDI using the CAD process.”

—Cindy Oertwig, McLeodUSA

The PACT Processes include:

- CAD**  
Curriculum Architecture Design – Systems Engineering of T&D Product Line
- MCD**  
Modular Curriculum Development – New Product Development of the T&D Products
- IAD**  
Instructional Activity Development – Development of Instructional Activities